WHAT IS CLAIMED IS:

1. A data communication apparatus that exchanges a voice packet via an IP network, the voice packet storing non-voice data, the apparatus comprising:

a data processor that executes a standard communication mode and a high-speed communication mode, the standard communication mode exchanging the voice packet at a predetermined transfer rate, the high-speed communication mode exchanging the voice packet at a rate faster than the predetermined transfer rate of the standard communication mode, the standard communication mode and the high-speed communication mode being interchangeably executed;

an acceptor that obtains capability information of a receiver apparatus in accordance with a predetermined communication protocol; and

a controller that selects the high-speed communication mode for execution when it is determined that the receiver apparatus has the high-speed communication mode, from the capability information obtained by said acceptor.

2. The data communication apparatus according to claim 1, wherein said data processor comprising:

an IP processor that decodes data in the received voice packet; and

a modem that demodulates PCM data that is output from said IP processor.

3. The data communication apparatus according to claim 2, wherein said controller switches between both the standard communication mode and the high-speed communication mode, by adjusting a standard clock that synchronizes mutual operations of said IP processor and said modem.

4. The data communication apparatus according to claim 1, wherein said data processor synchronizes a voice packet transmission operation of said data communication apparatus and a voice packet reception operation of the receiver apparatus, upon receiving synchronization information from the receiver apparatus, during an execution of the high-speed communication mode.

5. The data communication apparatus according to claim 1, further comprising:

a notification unit that notifies the receiver apparatus of capability information regarding the standard communication mode and high-speed communication mode, when transmitting a connection request to the receiver apparatus, in accordance with the predetermined communication protocol.

6. The data communication apparatus according to claim 1, wherein the communication protocol is Session Initiation Protocol.

7. The data communication apparatus according to claim 1, wherein the data stored in the voice packet is facsimile data.

8. A data communication method that exchanges a voice packet via an IP network, the voice packet storing non-voice data, the method comprising:

executing a standard communication mode and a high-speed communication mode, the standard communication mode exchanging the voice packet at a predetermined transfer rate, the high-speed communication mode exchanging the voice packet at a rate faster than the predetermined transfer rate of the standard communication mode, and the standard communication mode and the high-speed communication mode being interchangeably executed;

obtaining capability information of a receiver apparatus in accordance with a predetermined communication protocol; and

selecting the high-speed communication mode for execution when it is determined that the receiver apparatus has the high-speed communication mode, from the capability information obtained by an acceptor.

9. The data communication method according to claim 8, wherein a data processor synchronizes a voice packet transmission operation of a data communication apparatus and a voice packet reception operation of the receiver apparatus, upon receiving synchronization information from the receiver apparatus, during an execution of the high-speed communication mode.

10. The data communication method according to claim 8, further comprising:

notifying the receiver apparatus of capability information regarding the standard communication mode and high-speed communication mode, when transmitting a connection request to the receiver apparatus, in accordance with the predetermined communication protocol.